ValleyOrtho Rehabilitation Playbook Series

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Surgical Procedure: Rotator Cuff Repair (without Rotation Medical Graft) Green Playbook

The intent of this information is to inform the treating clinician on the evidence based considerations to be used as a guideline regarding the surgery noted above. This is not a substitute for appropriate clinical decision making but a supplement to that effect. If at any time a clinician feels uncertain about a given phase discrepancy or patient presentation they are strongly encouraged to discuss this with the referring physician and his/her team. If specific comorbidities create unattainable goals for phase progression, discuss this with the treating physician group before progressing to the next phase. Always check the prescription for potential patient specific ROM variations.

****It is the responsibility of the therapist to read the operative report before providing care to the patient to improve treatment communication as variations to treatment plan may occur because of surgical details and patient response to treatment****

Therapeutic Activity Progression Disclaimer: Progression to the next phase should be strongly based on meeting clinical criteria (not solely based on the post-operative timeframes) and in collaboration with the referring surgeon. Exercise prescription should be clinically directed by pain and performance absent of detrimental compensation with respect to proper arthrokinematics at the glenohumeral joint (GHJ).

Communication Recommendations from Therapist to Surgical Team: When a treating therapist feels the need to reach out to the physician, and his/her team, at any point for any reason they are strongly encouraged to do so. All concerns are not explicitly written and clinical judgement is paramount. Below is a handful of reasons and suggested methods of contact to promote communication:

Urgent Red Flag Communication: the patient is in clinic and an action is required as directed by referring staff office

- Uncontrollable and unremitting pain
- Signs of infection at incision or treated limb
- Severe palpation tenderness, swelling, tachycardia (UE or LE DVT)
- Labored breathing (PE)
- Drastic improvement or decline in ROM (failed repair)
- Excessive muscle guarding or motion phobia evident after the first 1-2 outpatient visits
- After a fall/trauma, or near fall/trauma, resulting in a clinical change

Preferred Contact Method: Immediate phone call to speak with MA or ATC until answer.

Administrative Needs

- Rehabilitation Prescription needed or prescription change requests
- Appointment needed with the physician office, or medication refill

Preferred Contact Method: Phone call to MA/ATC

Other Patient Concerns During Clinic Hours M-TH 9-5pm F 9-3pm

- Abnormal pain, comorbidities or complications that may prevent attainment of established discharge criteria
- Patient is noncompliant with rehabilitation process
- Adverse work or home practices negatively impacting recovery
- Patient expresses discontent or concerns with the current POC established by PT/OT and/or by MD/PA

Preferred Contact Method: Phone call to MD &/or PA

Preferred Updates before checkup visits with MD
During Clinic Hours M-TH 9-5pm F 9-3pm

- Information regarding adherence/participation in rehab process
- Progress and trending nature of the patient's rehab course

Preferred Contact Method: Phone call to MD &/or PA. **Or** Fax update

Phase 1: Healing & PROM Recovery (*weeks 0 to 4-6*)

Goals:

- Protect repair and optimize healing environment via postural control
- Proper pain, swelling and sling/cryotherapy management
- Decrease negatives of immobilization via improvements in PROM
- Intense emphasis on PROM via Manual therapy in this phase
- Improve passive scapula-humeral disassociation
- Establish appropriate cardiovascular exercise program

Precautions:

- Sling use 100% of the time for 6 weeks during situations of ambulation and sleeping (sling D/C based on MD approval)
- EXT limited to neutral in all positions for 4 weeks
- Therapist provided PROM only (caution into repair's antagonistic rotation) for 4 weeks
- No lifting, pushing, pulling, GHJ isometrics, or RROM of involved UE

Phase 1 Therapeutic Activities:

- PROM to restrictions in prescription, emphasis on rotational work
- GHJ protected PROM/mob without tissue deformation of surgically involved tissue (progress elevation as tolerated, clear rotational progressions with MD)
- Cervical, thoracic and scapular manual work and postural exercises to decrease potentially prolonged effects from interscalene block
- Clavicle posterior rotation and elevation mobilizations at AC/SC joints
- AROM encouraged at elbow, wrist, hand, scapula, cervical and T-spine
- Tubigrip and/or glove compression to manage distal swelling as needed
- Scar management on healed incisions at ≈ 2 weeks
- AAROM agonistic rotation and elevation in sitting/standing at 4 weeks

Criteria for Progression to Phase 2 Activities:

- The patient tolerates therapeutic progressions without undue discomfort, compensation or guarding
- Achieves rotational limits, achieves or exceeds elevation guidelines

Progression Note:

- If the patient has not reached the ROM restrictions, forceful stretching and mobilization without respect for soft tissue restraints is not indicated in this phase. Continue current phase approach unless cleared with physician.

Phase 2: ROM & Early strengthening (weeks 4 to *8*)

Goals:

- Continue strong emphasis of PROM and Manual therapy in this phase: Restore 75% of full PROM (caution antagonistic rotation until 8 weeks)
- Gently restore RTC function with GHJ arthrokinematics (AA>AROM)
- Minimal to no pain at rest
- Consistent and independent with HEP and cardiovascular program

Precautions:

- No RROM, CKC >10% BW or uncontrolled active movements
- Begin AAROM EXT at 6 weeks
- Begin low AROM & sub-max pain free isometrics in GHJ neutral at 6 weeks
- Do not over stress surgically involved healing tissue (Target activity goal for mild tissue deformation)

Phase 2 Therapeutic Activities:

- Sub max shoulder isometrics in neutral GHJ and scapular position
- Gentle GHJ and scapular mobilizations, emphasis on posterior capsule mobility and P/AA/AROM scapula-humeral disassociation as appropriate
- AAROM and AROM activities without compensations or pain
- NWB rhythmic stabilization, CKC <10% BW

Criteria for Progression to Phase 3 Activities:

- The patient tolerates therapeutic progressions without undue discomfort, compensation or guarding
- **Achieve without exceeding:** ROM: (**Flexion** = 140^0) (**ABD** = 120^0) (**ER in RP** = 70^0) (**ER @ 60^0 ABD** = 70^0) (**ER @ 90^0 ABD** = 60^0) (**IR @ RP** = 45^0) (**IR @ 90^0 ABD** = 45^0) (**Ext** = 45^0)
- AROM elevation to 120^0 with good mechanics

Progression Note:

- If the patient has not reached the above ROM criteria, forceful stretching and mobilization without respect for soft tissue restraints is not indicated in this phase. Continue current phase approach unless cleared with physician.
- If excessive shoulder shrugging occurs with AROM elevation do not progress to additional exercise above shoulder level (increase Manual focus)

Phase 3: AROM & Intermediate strengthening (*weeks 6 to 12*)

Goals:

- Gradual restoration of full shoulder AROM with arthrokinematic focus
- Increased emphasis on gradual restoration of shoulder AROM endurance and postural endurance
- Improve neuromuscular control and coordination of T-spine, scapula, and GHJ
- Return to light ADL's below shoulder level without discomfort

Precautions:

- No heavy lifting, aggressive strengthening, or sudden lifting / pushing
- Begin RROM biceps/triceps at 7 weeks (absent BT or labral repair)
- Begin P>AA>AROM IR behind back as tolerated at 8 weeks
- Begin slow and progressive RROM of RTC at 10 weeks: progress from a neutral GHJ position to a 90/90 ABD/flexion position as tolerated
- Increase CKC up to 50% BW at 10 weeks

Phase 3 Therapeutic Activities:

- GHJ protected PROM and mobilizations with target intensity for mild to moderate tissue deformation
- Progressive RTC exercise focusing on high repetition low load RROM
- Increasing duration and intensity with rhythmic stabilization activities
- Manual and exercise programming to maintain/improve the adjacent body regions that kinetically impact shoulder function

Criteria for Progression to Phase 4 Activities:

- Tolerates AA>A>RROM without undue soreness
- AROM within 15% of uninvolved UE with good GHJ arthrokinematics
- Maintains scapula and thoracic posture during exercise without cueing

Progression Note:

- If the patient is having difficulties attaining the above mentioned functional ROM at 12 weeks, more forceful short lever mobilizations and stretching with GHJ protection may be used with respect to the patient's pain tolerance

Phase 4: Advanced strengthening and Final HEP(week 12 - D/C)

Goals:

- Maintain full non-painful AROM
- Progress muscular endurance, strength and power
- Return to full duty work and recreational activity absent of forceful repetitive overhead tasks
- Patient understands appropriate exercise progressions/regressions for long term success with HEP to prevent likelihood of re-injury

Precautions:

- No ROM restrictions
- Continue to avoid sudden reactional motions and heavy/repetitive lifting overhead early in phase 4
- Ensure gradual exercise and activity progression

Phase 4 Therapeutic Activities:

- Slow progression of RROM above shoulder level focusing on stability
- CKC to FWB
- Home program maintenance and progression education
- Return to work and recreation specific exercise
  - Suggested sport specific progressions for overhead throwing, softball pitching, swimming, tennis, golf and volleyball can be found in the Post-Surgical Return to Shoulder Sports Playbook at vvorthocare.org

Criteria for Discharge / Expected Outcomes:

- Pain free AROM to 95% uninvolved extremity with normal mechanics
- Pain free isometric muscle strength to 85% uninvolved extremity
- Compliant with prescribed HEP and understanding of commitment to shoulder care

Progression Note:

- More forceful short lever mobilizations and stretching with GHJ protection may be used in this phase with respect to the patient's pain tolerance

Physician Alert Recommended:

- If comorbidities create unattainable goals for discharge, discuss this with the treating physician group
- If patient has been unable to make consistent/adequate gains in A/PROM and strength Dr. George would like more information to decide whether injections or revisions may be indicated ≈12-16 weeks in order to meet a patient's functional and pain control goals

Abbreviation List:

AAROM: Active assisted range of motion
ABD: Abduction
ADD: Adduction
ADL: Activity of daily Living
AROM: Active range of motion
BT: Biceps tenodesis
BW: Body Weight
CKC: Closed kinetic chain
D/C: Discharge
DVT: Deep vein thrombosis
ER: External rotation
EXT: Extension
FWB: Full weight bearing
GHJ: Gleno-humeral joint
HEP: Home exercise program
IR: Internal rotation
LE: Lower extremity
MA: Medical assistant
MD: Medical doctor
Mobs: Mobilizations
NWB: Non weight bearing
PA: Physician assistant
PE: Pulmonary embolism
PROM: Passive range of motion
ROM: Range of motion
RP: Resting position
RROM: Resisted range of motion
RTC: Rotator Cuff
UE: Upper extremity
WB: Weight bearing
#: Pounds
≈: Approximately
≠: Without
Wks: Weeks

Risk Factors for a Failed Structural Repair

Approach → Factors ↓	Conservative
Age	Over 65 years old
Bone Density	Osteopenia/Osteoporosis
Smoker	Yes
Tear size / #	> 3cm / multiple tendon
Tissue Quality	Poor
Pre-op Strength	Poor

Adapted from: Kokmeyer D[1] et al.

ROM & Activity Quick Guide

Wk	ROM Restrictions	Activity Restrictions
0-4	●100^0 elevation ●50^0 ER in RP ●40^0ER @90^0ABD ●30^0 IR in RP ●0^0 EXT	Therapist PROM only CKC <10% BW
4-6	● 100^0 elevation ● 50^0 ER in RP ● 40^0ER @90^0ABD ● 30^0 IR in RP ● 20^0 EXT	Begin AAROM elevation & Agonistic Rotation Begin EXT PROM
6-8	● 140^0 Flex ● 120^0 ABD ● 45^0 EXT ● 60^0 ER in RP & 60^0 ABD ● 70^0 ER in 90^0 ABD ● 45^0 IR in RP & 90^0 ABD	Begin AROM Begin AAROM EXT without IR Begin Submax Isometrics RROM Elbow **@ 7 Wks ≠ BT**
@8		Begin P/AA>AROM IR Behind Back
9+	P/AA/AROM AS TOLERATED	
@10	P/AA/AROM AS TOLERATED	Begin CKC to 50% BW Begin RROM RTC
12+	P/AA/AROM AS TOLERATED	CKC to FWB Progressive RTC into elevated ranges as tolerated

References

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